INTERNATIONAL MARITIME ORGANIZATION

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MARINE ENVIRONMENT PROTECTION COMMITTEE
43 session
Agenda item 4

MEPC 43/4/6
1 April 1999
Original: ENGLISH

HARMFUL AQUATIC ORGANISMS IN BALLAST WATER

Compilation of responses to the Questionnaire on Ballast Water Management (MEPC/Circ.342)

Note by the Secretariat

SUMMARY

Executive summary:	This paper contains a compilation of responses received so far to the Questionnaire on Ballast Water Management distributed under MEPC/Circ.342 of 28 April 1998.
Action to be taken:	Paragraph 3.
Related documents:	MEPC/Circ.342

1 The Committee issued a Questionnaire on Ballast water Management which was distributed under MEPC/Circ.342 of 28 April 1998. It was the purpose of this Questionnaire to collect information particularly regarding requirements which have been adopted by individual Countries on ballast water management and control.

2 This report has been compiled by the Secretariat on the basis of the responses received so far from twelve States.

3 The Committee is invited to take note of this compilation.

Compilation of responses to the BALLAST WATER QUESTIONNAIRE (MEPC/Circ. 342)

A. General 1 List major ports which are visited by ships in the course of their international voyages and where ballast water[1] is discharged:	**Argentina:** Ballast water is not discharged in any Argentine port. It is discharged before entry into port. **Australia:** Separate attachment to follow **China:** 14 ports. Ballast water is discharged in the waters of port area or in reception facilities. **Croatia:** 8 ports **Finland:** 24 ports **Japan:** 10 ports **Marshall Islands:** Although there are no written regulations, the port director advises that scheduled and unscheduled international port calls are instructed not to deballast in Marshall Islands ports. **Panama:** No ballast water is discharged in the Canal. **Slovenia:** 1 port (Koper) **United Kingdom:** There are over 200 ports in the U.K. with approx. 38000 port based ballast water exchanges. **Vanuatu:** 2 ports **Hong Kong, China:** 1 port (Hong Kong)	**Comments:** **Vanuatu:** The situation recorded in the response is likely to change, the regional pollution prevention plan (PACPOL) has been developed. However no time frame can be estimated at this stage.

[1] Throughout this text, "ballast water" is meant to include suspended solids (sediments)

2	Number of visits made per year by ships in the course of their international voyages in each of these ports:	**Argentina**: No data available **Australia:** Approx. 10 000 **China:** 14 ports, 466 to 24 170 visits **Croatia:** 8 ports, 12 to 10 506 visits **Finland:** 24 ports, 80 to 8 538 visits (in 1997) **Japan:** 10 ports, 2 257 to 11 887 visits **Marshall Islands:** 1 port, 73 visits **Panama**: Approx. 13 000 ocean-going vessels transit the canal per year **Slovenia:** 1 port, 1 851 visits **United Kingdom:** Not known. (42.5 million tonnes ballast water is discharged into English, Scottish and Welsh ports annually) **Vanuatu:** 2 ports, 71 to 165 visits **Hong Kong, China:** 1 port, 44 475 (1997), 41 760 (1996), 41 478 (1995) visits	

3	Country of origin (country, region, port) and amounts of ballast water discharged annually. When answering, please prioritize the list of ports by tonnage of ballast water received and the countries where the largest quantities of ballast water come from:	**Argentina:**	Ballast water is not discharged in any Argentine port. It is discharged before entry into port.
		Australia:	Approx. 63 900 000 tonnes of ballast water discharged annually
		China:	12 ports, 300 to 7 254 755 tonnes of ballast water discharged in 1997
		Croatia:	N.I.
		Finland:	No exact data available concerning the amounts of ballast water discharged in Finnish ports. Origin of ballast water mainly from Baltic and North Sea ports.
		Japan:	10 ports, 0.4 to 2.3 million tonnes ballast water discharged annually
		Marshall Islands:	None
		Panama:	N/A
		Slovenia:	N/A
		United Kingdom:	No data available, rough information for some ports: more/less than 50 000 tonnes per year.
		Vanuatu:	No reporting / monitoring requirements
		Hong Kong, China:	No collection of data on this aspect

B.	**Ballast Water Management and Control Measures**		
1	Does your country apply ballast water control measures based on guidance provided by IMO[2] to minimize the risk of introducing harmful aquatic organisms and pathogens for:		
	(a) selected ports? Yes/No[3]	**Argentina**:	a) Yes. All Argentine ports in the River Plate estuary, from 1999 onwards. Ports in special protection zone on the Argentine coast. b) No
		Australia:	Yes, for international shipping at all ports and waters under national jurisdiction. Coastal Voyage Ballast Water Guidelines will be introduced in 1999.
		China:	a) No b) Yes, in all ports and national waters
		Croatia:	a) No b) No
	b) all ports and waters under national jurisdiction Yes/No	**Finland:**	-
		Japan:	a) No b) No
		Marshall Islands:	a) No b) No
		Panama:	Discharge of ballast water in canal water is prohibited
		Slovenia:	a) No b) No
		United Kingdom:	a) Shipping is urged to follow IMO guidelines on a voluntary basis b) No
		Vanuatu:	a) No b) No
		Hong Kong, China:	a) No b) No

Finland does not have any requirements concerning ballast water discharge under its jurisdiction and no port authority practices control measures on ballast water

There is no ballast water control measure in the port of **Hong Kong**

[2] IMO resolutions A.774(18) and/or A.868(20)

[3] If "yes", please list ports

2	Do your national control measures apply to: (a) all ships? Yes/No (b) specific ship types? Yes/No If "yes", please list exemptions (c) any ballast water amount per ship? Yes/No If "no", please note exempt limits (d) only ballast water originating from defined countries, ports, regions? Yes/No If "yes", please attach outline or principles of relevant risk analysis.	**Argentina:** a) No b) Yes. In Argentine ports in the River Plate estuary, ships coming from other Argentine ports are exempt. c) Yes d) Yes. Ballast water from foreign ports. (measures see separate attachment) **Australia:** Yes **China:** a) Yes b) No c) Yes d) No **Croatia:** a) Yes b) - c) Yes d) - **Finland:** - **Japan:** N/A **Marshall Islands:** N/A **Panama:** a) Yes **Slovenia**: a) No b) No c) No d) No **United Kingdom:** No statuary national legislation is in place **Vanuatu:** No national control measures **Hong Kong, China:** N/A	

3(a)	Are the above control measures supported or enforced through national legislation? Yes/No If "yes", please note title and year of relevant act, ordinance, decree, etc.	**Argentina:** a) Yes. Order No. 12/98 (DPMA) - Designation of special protection zones on the Argentine coast. Order No. --/98 (DPMA) - Prevention of pollution by aquatic organisms in the ballast water of vessels bound for Argentine ports in the River Plate estuary. (approved but not yet published) b) Yes. For ports located in special protection zones on the Argentine coast, see articles 5 and 11 of the relevant order. For Argentine ports in the River Plate estuary, see all articles in the relevant order. **Australia:** a) Yes the Quarantine Act, 1908. b) Yes, mandatory reporting of ballast water management procedures and mandatory access to on-board sampling introduced on 1 August 1998, with a two month grace period to 1 October 1998 before full compliance mandatory. **China:** a) Yes. *1. The marine environmental protection law of the People's Republic of China.* (It came into effect on 1 March 1983) *2. The regulation concerning the prevention of pollution of sea areas by vessels.* (It came into effect on 29 Dec. 1983) *3. The regulations concerning supervision and control of foreign vessels by the People's Republic of China.* (It came into effect in 1979) b)Yes. *1. port Lianyungang. Provisions concerning supervision and control of maritime traffic in Lianyungang port.* (it came into effect on 1 March 1998). *2. port Shantou. The provisions concerning the pollution prevention of sea by vessels*. (it came into effect 1 June 1983) *3. Port Yantai. Regulation governing supervision and control of traffic safety and prevention of pollution by vessels in Yantai port water areas.* (it came into effect on 27 May 1994) **Croatia:** - **Finland:** - **Japan:** N/A **Marshall Islands:** N/A **Panama**: a) Yes. U.S.A. code of federal regulations 35, Panama canal, Section 125.1 b) Yes. mandatory in the whole canal. **Slovenia:** a) No b) No **United Kingdom:** a) - b) No **Vanuatu:** N/A	
3(b)	Are any or all aspects of ballast water management control measures mandatory in your country, region or port? Yes/No If "yes", list mandatory measures in regions and ports to which they apply.		

4 Do the measures applied in your country: (a) accept all ballast water management options set out in the guidance provided by IMO?[4] Yes/No If "no", please note restrictions: (b) accept additional ballast water options? If "yes", please indicate alternatives that are acceptable: (c) include any specific measures which must be undertaken if en route management or treatment was not possible? (d) require any specific reporting procedures? Yes/No If "yes", please indicate alternatives that are acceptable:	**Argentina:** a) Yes b) Yes. For ports located in special protection zones on the Argentine coast, see article 10 of the relevant order. c) Yes d) Yes. For ports located in special protection zones on the Argentine coast, see article 11, including 11.2 and 11.3, of the relevant order. For Argentine ports in the River Plate estuary, see article 6 of the relevant order. **Australia:** a) Yes b) Yes, 1. Ballast Water Quality Assurance Compliance Agreements and; 2. acceptance of heat treatment possible on cross-equatorial voyages following approval from AQIS of heat treatment systems. c) Yes, high-risk vessels may be required to comply with a port contingency plan. d) Yes, the AQIS Quarantine Declaration for Vessels and accompanying AQIS Ballast Water reporting Form (modelled on the IMO Ballast Water Reporting Form) is the only acceptable reporting procedure. **China:** a) No b) No c) N/A d) No **Croatia:** a) No b) - c) - d) - **Finland:** - **Japan:** N/A **Marshall Islands:** a) No b) N/A c) N/A d) No **Panama:** N/A **Slovenia:** a) No b) N/A c) N/A d) No **United Kingdom:** N/A **Vanuatu:** N/A **Hong Kong, China:** N/A	

[4] IMO resolutions A.774(18) and/or A.868(20)

5	Are national ballast water control measures based on: (a) examination of records and log? Yes/No (b) visual inspection of ballast tanks? Yes/No (c) ballast water sampling, *in situ* measurements and/or laboratory analyses? Yes/No	**Argentina:** a) Yes b) Yes (depending on circumstances) c) Yes (depending on circumstances) **Australia:** a) Yes b) Yes c) Yes **China:** a) Yes b) Yes c) Yes **Croatia:** a) No b) No c) No **Finland:** - **Japan:** N/A **Marshall Islands:** a) No b) No c) No **Panama:** Pilot on board monitors ship during transit. **Slovenia:** a) No b) No c) No **United Kingdom:** None in place **Vanuatu:** N/A **Hong Kong, China:** N/A	

6	Please note the location and capacities of any facilities for the reception, treatment or safe disposal of ballast water and sediments	**Argentina:**	None	
		Australia:	None available at this time.	
		China:	5 ports, capacities from 8 114 to 60 000 m^3	
		Croatia:	INA Oil Refinery Urinj, 51211 Kostrena Urinj, Croatia, Location Bakar 2 eservoirs: each of 2000 m^3, 2 reservoirs: each of 400 m^3.	
		Finland:	-	
		Japan:	N/A	
		Marshall Islands:	N/A	
		Panama:	N/A	
		Slovenia:	NIL	
		United Kingdom:	There are no facilities that have specially arisen to prevent introduction. Facilities for oily ballast water exist.	
		Vanuatu:	No facilities available	
		Hong Kong, China:	There is no reception or treatment facilities for ballast water in Hong Kong. Sediments inside ballast water tank can be removed by ship repairers or private contractors in Hong Kong for disposal.	

7	Please indicate name and address of your national control authority for ballast water management	**Argentina:** Prefectura Naval Argentina Av. E. Madero 235 - 4o Piso, Oficina 4.42, (1106) Buenos Aires, Argentina Tel. 54 1 318 7400/7500/7600 (ext. 2449) **Australia:** Ballast Water Unit, AQIS, GPO Box 858, Canberra ACT 2601, Australia email: ballast.water@dpie.gov.au website: http://www.aqis.gov.au/ballastwater Fax: 61 2 6272 3036 **China:** The Bureau of harbour superintendency of the People's Republic of China 11 Jianguomennei Ave., Beijing, China 100736 Tel: 0086-10-65292809, Fax: 0086-10-65292245; email: anjanpsc@public.bta.net.cn **Croatia:** Local port authorities: Rijeka, Riva 1, Tel: +385 51212974, Fax: +385 51213112 Pula, R. Kon...ara, Tel: +385 52211834, Fax: +385 52214263 Zadar, Liburnska obala 6/1 Tel: +385 23314520, Fax: +385 23313666 Šibenik, Obala hrvatske mornarice 4, Tel: +385 22213033, Fax: +385 22212133 Plo...e, Trg kralja Tomislava 21, Tel: +385 20603281, Fax: +385 20670271 Dubrovnik, Gruška obala 1, Tel: +385 20418511, Fax: +385 20418551 **Finland:** - **Japan:** N/A **Marshall Islands:** Josephius Tiobech, Port Director, Marshall Islands Port Authority PO Box 3265, Majuro, Marshall Islands MH96960 Tel: 692 625 4797 Fax: 692 625 4269 **Panama:** (local not national control authority) Panama Canal Commission, Dept. of Maritime Operations Transit Operations Division, Unit 2300, APO AA 34011-2300 **Slovenia:** The Slovenian Maritime Directorate, Ukmarjev trg 2, Koper **United Kingdom:** Maritime & Coastguard Agency, Spring Place, 105 Commercial Rd. Southampton, Hants S015 **Vanuatu:** Not designated **Hong Kong, China:** N/A	

8	Provide addresses (including e-mail, fax) of other national focal points (institutions, departments) through which information on national requirements concerning ballast water management may be obtained	**Argentina:** Prefectura Naval Argentina Dirección de Protección del Medio Ambiente, Departamento Contaminación y Mercancias Peligrosas, Av. E. Madero 235 - 40 Piso, Oficina 4.43 (1106) Buenos Aires, Argentina Fax: 54 1 318 7664/7474 **Australia:** Ballast Water Unit, AQIS, GPO Box 858, Canberra ACT 2601, Australia email: ballast.water@dpie.gov.au website: http://www.aqis.gov.au/ballastwater Fax: 61 2 6272 3036 **China:** N/A **Croatia:** State Directorate for the Protection of Natural and Environment 51000 Rijeka, Uñarska 2/1, Croatia Tel: +385 51213499 Fax: +385 51214324 Email: arandic@duzo.tel.hr **Finland:** - **Japan:** N/A **Marshall Islands:** N/A **Panama:** N/A **Slovenia:** Nacionalni institut zo biologijo, Morska postaja Piran Fornace 41, 6330 PIRAN Fax: 386 66 746 367 email: malej@morje.msp.nib.si **United Kingdom:** Maritime & Coastguard Agency, Spring Place, 105 Commercial Rd. Southampton, Hants S015 **Vanuatu**: N/A **Hong Kong, China:** Multi-Lateral Policy Division, Marine Department, 21/F, 38 Pier Road, Central, Hong Kong Fax: (852) 2542 4841	

C. Introductions of aquatic species, their impacts and counter measures 1 Are introductions known to have occurred in your country involving harmful aquatic species: (a) through maritime shipping (e.g., ballast water discharges, fouling on ships' hulls)? Yes/No [5] (b) with aquaculture or as ornamental products? Yes/No	**Argentina:** a) Yes b) No **Australia:** a) Yes b) Yes **China:** a) Yes b) Yes, maybe **Croatia:** a) Yes b) No **Finland:** a) Yes b) Yes **Japan**: a) No b) No **Marshall Islands:** a) No b) No **Panama:** a) Not known b) Yes. Harmful aquatic *Hydrilla verticilata*, *Eichornia crassiceps* and *Pistia stratiotes*. **United Kingdom:** a) Yes b) Yes **Vanuatu:** a) No b) No **Hong Kong, China:** a) Yes b) Yes	see document MEPC 40/10/1 The presence of harmful aquatic species in the sea around **Japan** has been known since long time ago. However it can not been identified whether these species had been introduced from other areas. Information showed that introduction of some aquatic species have occurred in **Hong Kong**, but whether these species are "harmful" is difficult to determine.

[5] Please attach available information or submit list of information sources (in printed or electronic form).

2(a) Has the degree of impact been evaluated? Yes/No 2(b) If "yes" to 2(a) above, what is the degree of impact evaluated in regard to: (i) human health, ecosystem, biodiversity? slight/medium/serious [5] (ii) economics, e.g., through effects on aquaculture, tourism, industrial uses of water, etc.? (please indicate estimated annual cost in US$) US$ ..... [5]	**Argentina:** a) Yes, in part. Studies are continuing b) (i) Medium (ii) not determined **Australia**: a) Yes b) (i) serious (ii) There have been aquaculture industry closures due to toxic algal blooms and significant impacts on the marine environment. A bio-economic risk assessment has been undertaken by AQIS, entitled *Bio-economic Risk Assessment of the potential Introduction of Exotic Organisms through Ships' Ballast water (April 1994)*. **China:** a) No, not yet **Croatia:** a) Yes b) (i) slight (ii) n/a **Finland:** a) Yes b) (i) slight (ii) minor **Japan:** a) No **Marshall Islands:** a) No **Panama:** a) Yes b) Formal studies have not been conducted. Costs controlling above mentioned aquatic weeds approx. 343 000 US$ for Fiscal Year 1997. **Slovenia:** a) No **United Kingdom:** a) Yes, on limited scale only b) (i) slight (ii) N.I. **Vanuatu:** a) No **Hong Kong, China:** a) No	see document MEPC 40/10/1 Copies are available from AQIS on request. **Croatia:** *Caulerpa taxifolia* found in the surrounding waters of the islands of Hvar, Krk and Rab.

3	Have measures been taken, or are measures planned, to control further spreading, or to mitigate unwanted effects, of introduced species? Yes/No [5]	**Argentina:** Yes **Australia:** Yes **China:** No **Croatia:** Yes **Finland:** No **Japan:** N/A **Marshall Islands:** No **Panama:** Yes **Slovenia:** No **United Kingdom:** Yes, on limited scale only. **Vanuatu:** N/A **Hong Kong, China:** No	**Argentina:** See B.3. Studies are continuing **China:** Specific measures have not been taken. Measures have been implemented to check the proliferation of introduced aquatic weeds in the **Panama** Canal, incl. chemical, biological and mechanical control.

D. Research and Education 1 Research conducted in your country concerning alien aquatic species, their mode of introduction, identification, ecological impact, and mitigation. [5]	**Argentina:** See document MEPC 40/10/1. Research is continuing by Dr. Gustavo A. Darrigan at the Universidad Nacional de la Plate - Facultad de Ciencias Naturales y Museo - Secretaría de Investigación y Transferencia (Depto. Zoología Invertebrados) Fax: 541 21 25 7527/541 21 53 9563 email: darrigra@isis.unlo.edu.ar / darrigra@way.com.ar Pascual, M.S. and J.M. Oresanz. 1996. Introducciones y transplantes de especies marinas en el litoral patagónico. Informes Técnicos del Plan de Manejo Integrado de la Zona Costera Patagónica. 9:1-16. **Australia:** Separate attachment to follow **China:** None **Croatia:** N/A **Finland:** Professor Erkki Leppäkoski (Ecology and Environment), Department of Biology, Abo Akademi University is conducting research in co-operation with the Baltic Marine Biologists. **Japan:** Researches concerning red tides, paralytic shellfish poisoning, etc. have been carried out in many places in Japan. However relation between these phenomena and alien aquatic species has not been identified. **Marshall Islands:** No **Panama:** None **Slovenia:** Research concerning aquatic species, their mode of introduction, identification, ecological impact and mitigation is conducted by the Nacionalni institut za biologijo. **United Kingdom:** a) 3-year MAFF funded project at School of Ocean Science, Menai Bridge. Sampling programme entitled "Marine organisms transported in ships ballast". b) 2-year EU concerted action study "Testing monitoring systems for risk assessment of harmful introductions by ships to European waters". Study to be carried out Jan. 98-Dic.99. c) UK Marine Safety Agency contracted Lloyds Register to evaluate disinfection options for ballast water (report submitted MEPC 38) d) 6-month desk study to assess ballast water exchanges in ports in England and Wales. **Vanuatu:** No **Hong Kong, China:** Research has been conducted in the University of Hong Kong and the Chinese University of Hong Kong.	Fundación Patagonia Natural Marcos A. Zar 760 - Casilla de Correo 160 9120 Puerto Madryn - Chubut - **Argentina** Tel/Fax: 54 965 72023/51920/74363 **Australia:** In addition related research is undertaken in universities and institutes throughout the country. Laing, I. 1995. Ballast water exchange at ports in England and Wales. MAFF, Directorate of Fisheries research.

2	Awareness programmes for seafarers, port authorities and for public information purposes. [5]	**Argentina:** The Prefectura Naval Argentina publishes its Orders in the Boletin Informativo de la Marina Mercante. **Australia:** Not yet completed. Will be provided to the next IMO MEPC meeting. **China:** As far as the discharge of ballast water is concerned, nowadays, we are focusing our emphasis on the fundamental requirements of the prevention of marine pollution when training Chinese seafarers. With regard to public information and education for the public as well as for seafarers, we are making efforts to publicize and educate them in relation to marine environmental prevention measures. **Croatia:** - **Finland:** - **Japan:** Although no official programmes have been developed so far, non-governmental organizations such as the Japanese Shipowner's association, the Japan Association of Marine Safety, etc. have endeavoured in making their constituencies aware of ballast water issues. **Marshall Islands:** No **Panama:** None **Slovenia:** None **United Kingdom:** See above **Vanuatu:** Not yet **Hong Kong, China:** The Marine Department has issued two Merchant Shipping Notices concerning with the ballast water management on board ships.	

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